AGRICULTURAL INVENTIONS.

A New Fruit Drying Scaffold.

A novel device for facilitating the drying of fruit in the sun is shown in the accompanying engraving, which is a perspective view of the device as arranged for use. In the engraving, A is a post of suitable height and size, the lower end of which may be either set in the ground or attached to a suitable base to give it necessary stability. In the upper end of the post are formed two longitudinal slots, which intersect each other at right angles, and by the use of proper pins and lugs the ridge pole which supports the roof is united to the post. Attached to the post, A, are shelves, B, made of any convenient length and breadth, and near one end of the shelf is formed a hole to receive and fit upon the post. The shelves are supported at the desired height by projection pins attached to the post below the lowest shelf. To the perforated ends of the shelves are attached short boards, D, to give the shelves longer bearings on the post and also to keep the shelves at such a distance apart that the fruit upon them shall not be disturbed. The roof, K, made of boards or of a frame and covered with canvas, is so arranged at the point of contact of the ridge pole and post that, by pulling down upon a rope, the roof may be raised to an upright position, exposing the fruit upon the scaffold to the full rays of the sun, and may also be turned to a vertical position. The fruit is protected from rain or dew by swinging the shelves together and lowering the roof over them. This invention is patented by William Smith Haley, of Columbia, Tenn.

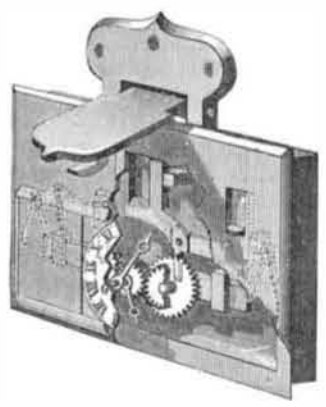
Mowing Machine Seat.

Mr. James Fulton, of Great Bend, N. Y., has patented a useful improvement in mowing machine seats, which will be appreciated by those who are obliged to ride on reapers and mowers. The engraving is a perspective view of the seat, which is so constructed and attached to the seat standard of mowers and reapers, that the sudden lateral motion given to the standard, while passing over rough and uneven ground, will not be communicated to the rider. The seat of the machine is supported upon links suspended from the forked ends of the seat standard and is arranged so as to oscillate freely. In the engraving, A is the seat standard. On the under side of the seat is a support with lateral spring arms which are secured to the links hanging from the standard. The forward part of the seat is connected to the standard by a support which prevents the seat from tipping too far back. With this construction the seat standard is free to move from side to side with the up and down motions of the axle of the machine, without suddenly carrying the weight of the rider with it.

MISCELLANEOUS INVENTIONS.

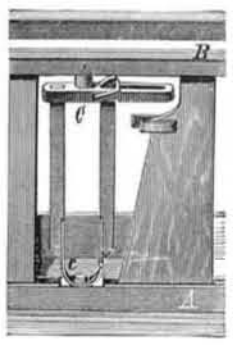
Permutation Trunk Lock.

An improved combination lock, which can only be locked or unlocked by a person acquainted with the combination of the several parts, has been lately patented by Mr. William Rowe, of Biddeford, Me., and is shown in the annexed engraving. The lock casing is provided on its front side with a recess, in which is placed a dial, and also upon the case are two beveled ridges in which a plate slides for covering the face of the dial. This dial is provided with two hands, one of which is mounted on the outer end of a shaft, and the other is mounted on a sleeve that surrounds this shaft. On the inner ends of the shaft and sleeve, pinions are mounted that engage with spur wheels, and on the spur wheels is a notched side disk. These wheels are mounted loosely on pintles and pass through a horizontal slot in the rear wall of the lock case, and project from the inner surface and are rigidly attached to a slide that is pressed toward the dial shaft by a spring, one end of which rests against the slide and the other against the outside of the case. The upper end of the bolt of the lock is provided with a recessed tongue to receive the catch of the hasp, and its lower end has two projecting arms that fit into the recesses of the spur wheels when they are engaged with the pinions of the dial hands. By means of the pintles attached to the slides the spur wheels are drawn back from the pinions of the dial hands, and the lock can be adjusted to be opened at a certain position of the hands on the dial. At all other positions of the hands the lock cannot be opened, and to open it the hands must be returned to their original position. The lock is adjusted from the inside of the trunk.



An Improved Cattle Stanchion.

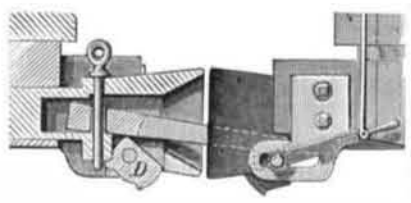
Among recent inventions we find a useful improvement in cattle stanchions, by which both bars of the stanchions are free to move with every motion of the neck and shoulders of the animal, thus adding greatly to the ease and comfort of the animal and obviating altogether the injurious cramping and confinement incident to stanchions of ordinary construction. In the annexed cut, A is the lower, and B the upper beam of the stanchion frame To and between these beams is pivoted the stanchion, which is formed of a movable stanchion bar that is hinged at its lower end to the curved plate, *e*, and its upper end moves in a slot formed through the long arm of the cross piece, C, and the stanchion bar that is secured at its lower end to the curved plate and its upper end to the short arm of the crosspiece. When the stanchion is open it is kept in proper position by a keeper placed on an upright board, and when the animal is in the stanchion, a hinged bale attached to the plate, C, drops over the upper end of the bar, which is made to reach above the plate for that purpose. This invention is patented by Mr. Stephen J. Adams, of Willett, N. Y.



ENGINEERING INVENTION.

Car Coupling.

Mr. George F. Bond, of Troy, N. Y., has patented an ingenious automatic coupling for cars that is simple in its construction and efficient in its action. The coupling is shown in the annexed cut. The draw head of a car is provided with an aperture on its under side that contains a swinging cam block, rigidly mounted on a transverse shaft, D, that extends through horizontal slots in guide plates attached to the longitudinal beams of the car frame. This shaft is provided at each end with lever handles, by which it can be rotated and the cam block moved up and down. The block has on its rear end a lug that strikes against the bottom of the draw head when it is swung downward as far as is necessary, and on its front end is a curved ridge which fits into a corresponding groove in the front end of the aperture of the draw head. The coupling bar has an aperture at its inner end through which the coupling pin passes, which also passes through an opening in the draw head behind the cam block. The bar is provided at its outward end with a downwardly projecting beveled head forming a hook. When the cars come together the beveled end of the coupling bar slides up the bottom of the opposite draw head and drops down behind the front end of the aperture in its under side. The head catches on the front end of the aperture and will draw the car. If the cars are to be uncoupled the handle lever is thrown downward and the cam is turned upward into the aperture, raising the end of the coupling bar out of the aperture, and it may then be drawn out of the draw head.



MECHANICAL INVENTIONS.

Joint for Railroad Rails.

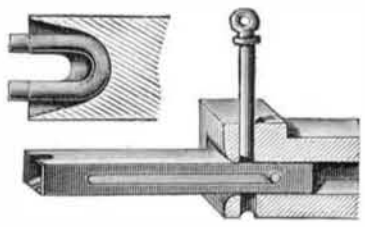
Mr. James M. Adams, of Stanberry, Mo., has patented a new joint for railroad rails of the class known as "splice" or "lap" joints, and it consists principally in the peculiar manner of scarfing the tread of the rails. The invention is shown in the annexed cut. The faces of the laps are formed with cuts, part of which are diagonal to the line of the rail and part are parallel, the latter being the contact faces of the joint, and are of a length greater than the maximum movement of the rails by expansion or contraction, so that the relative position of the lap will not be changed so as to loosen or tighten the joint. The webs of the rails are cut away where they are brought together, and the edges of the base are chamfered back to allow a hook formed on the lower edge of the fish plate to catch over, and these hooks, being of less width than the length of the mortises cut away, leaves room for the rails to move by expansion and contraction. By this construction of joint all pounding of the car wheels and consequent battering of joints is overcome by the laps of the joint, as the wheels at the time of passing the joints do not pass abruptly from one rail to the other, but at the instant of passing the joint rest upon both rails.

Auxiliary Power Wheel for Ships.

Among recent inventions we find an improved means for obtaining power from the forward motion of a vessel, for operating the pump for pumping water from the vessel, or for other purposes, that is patented by Mr. Kittil Anunsen, of Winchester, Wis. The device is shown in the annexed cut. The operative parts of the device are secured to the vessel by suitable means attached to the bar, A. This bar is provided near its upper end with a fixed bracket, and below this bracket, on a plate attached to the bar, that projects past its sides, is a sliding bracket, and in these brackets is journaled the main vertical shaft, B. This shaft receives motion from the horizontal shaft of the water wheel, C, the motion being imparted by bevel gearing attached to the vertical and horizontal shafts. The water wheel is composed of a horizontal shaft having radial arms, to which are attached sheet metal blades. The shaft of the water wheel is journaled in a rectangular frame having horizontal arms, which latter are perforated, and through which the vertical shaft, B, passes. By this means the water wheel, C, is held in such position that the bevel gearing of the two shafts will mesh with each other, and they are retained in such position by collars secured upon the shaft, B, as shown. The rotary motion which the shaft, B, derives from the water wheel when the vessel is in motion is transmitted by suitable means to a crank shaft, to which the plunger rod of a pump is attached. Devices are provided to raise and lower the water wheel, and the blades of the wheel can be adjusted so as to give greater or less motion, as desired.

Car Coupling.

Mr. Samuel A. V. Hartwell, of Valley Center, Kan., has patented an improved car coupling, shown in the engraving annexed. The bumper of a car has a rectangular longitudinal perforation, and into this perforation is fitted a sliding bar, in the forward end of which is formed a recess to receive a coupling link. This recess is made flaring to guide the coupling link into its place, and is perforated vertically to receive the coupling pin. In the side of the sliding bar is formed a longitudinal groove to receive the end of a stop pin in the side of the bumper that prevents the bar from being drawn out from it In use the operator raises the coupling pin and draws out the sliding bar of one bumper, leaving the end of the pin resting on the top of the bar, and then guides with his hand the link of the other car, so that it will enter the recess in the end of the sliding bar. As the cars come together the sliding bar is pushed back into its bumper, leaving the operator ample time to withdraw his hand, so if it is caught it is from gross carelessness. As the bar is pushed back the coupling pin drops through the link and the cars are coupled.



Washing Machine.

Mr. Micajah C. Malone, of Palmyra, Ill., has patented an improved washing machine that is provided with a vertically reciprocating pounder, with which two swinging pounders are combined, so that the clothes will be alternately pressed from above and from the sides. The machine is shown in the annexed cut. A bar passes longitudinally through the washing box and rests on recessed brackets on the inner sides of the ends of the box, to which it is held by pivoted hooks. The lower forked end of the dasher rod is passed over this bar and the lower ends are united by a block, and the rod is prevented from being moved on the bar in the direction of its length by pins and guide slots. Two arms are pivoted to the dasher rod above the bar, and to the free end of these arms swinging levers are pivoted, and these levers are pivoted to the longitudinal bar, as shown, and each has a beveled pounder attached to its lower end. The upper end of the dasher rod is provided with a crank and wheel. When the crank is turned the dasher rod is reciprocated vertically, and the block on its lower end acts to pound the clothes, and its motion also imparts motion to the side levers by which their pounders are alternately separated and brought together.